

Response Under 37 C.F.R. 1.116

Applicant: Mark Shu et al.

Serial No.: 10/792,186

Filed: March 3, 2004

Docket No.: M190.148.101 / P0011480.00

Title: SUTURE LOCKING ASSEMBLY AND METHOD OF USE

REMARKS

This is responsive to the Final Office Action mailed August 4, 2009. In that Office Action, claims 1-31 and 54-58 were rejected under 35 U.S.C. §102(b) as being anticipated by Alonso, U.S. Patent No. 4,935,030 ("Alonso").

With this Response, the claims have not been amended. Claims 1-31 and 51-58 remain pending in the application and are presented for reconsideration and allowance.

Withdrawal of Finality of Last Office Action

A rejection based on novelty requires the examiner to cite the best references. When a reference is complex or shows inventions other than that claimed by the applicant, the particular part relied upon must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. *37 C.F.R. 1.104(c)(2)*. Before final rejection is in order, a clear issue should be developed. An applicant seeking to define his invention in claims that will give him the patent protection to which he is justly entitled should receive the cooperation of the examiner to that end. The applicant is entitled to a full and fair hearing. *MPEP §706.07*.

With the above tenets in mind, in rejecting claims 1-31 and 54-58 as being anticipated by Alonso, the Final Office Action gives no explanation as to how the features of many dependent claims are taught by Alonso. For example, at least claims 20, 21, and 54-58 recite subject matter clearly not disclosed in Alonso, yet are not addressed in the Final Office Action. Applicant is unfairly precluded from responding to the Final Office Action without at least a basic understanding of how the Examiner views Alonso as anticipating at least claims 20, 21, and 54-58. Thus, it is respectfully submitted that the current Office Action is incomplete, and its finality should be withdrawn.

35 U.S.C. §102 Rejections

Alonso discloses a mechanical heart valve prosthesis including mechanical leaflets 14 pivotably attached to an annular base 12. A conventional sewing ring 40 is mounted to the

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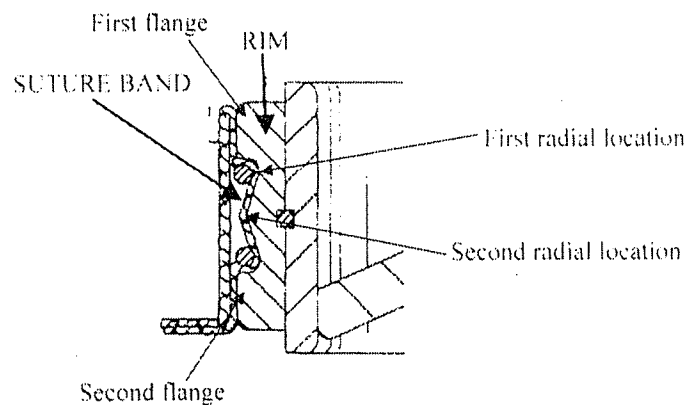
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annular base 12 by a metal ring 28 via threads 38. In rejecting claim 1 as being anticipated by Alonso, the Final Office Action interprets the metal ring 28 as being the “rim” of claim 1, and the sewing ring 40 as being the claimed “suture band”. In this regard, claim 1 recites that relative to a circumferential interface between the rim and the suture band, first and second radial spacings are established. The Office Action points to the thread-receiving grooves in the rim/metal ring 28 as teaching these features. Applicant respectfully disagrees for the following reasons.

As a starting point, the Final Office Action incorporates a portion of the view of FIG. 3 of Alonso to illustrate the Examiner’s interpretation of Alonso relative to claim 1. In the interest of completeness, this same portion of FIG. 3 of Alonso is reproduced below, along with the designations set forth in the Final Office Action as best understood.



While it is agreed that the rim/metal ring 28 of Alonso forms opposing grooves (i.e., the “first radial location” identified above) opposite a radially projecting center point (i.e., the “second radial location” identified above), it is respectfully submitted that this surface feature of the rim/metal ring 28 does not teach the limitations of claim 1. In particular, claim 1 recites that the rim defines spaced apart flanges, with the suture band being maintained between the first and second flanges. Given this explanation, the only portion of the sewing ring 40 of Alonso that can serve as the “suture band” claim 1 is the length of material between the threads 38 and otherwise in contact with the face of the rim/metal ring 28. All other portions of the sewing ring 40 are not

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between the rim flanges (as identified by the Examiner). With this understanding in mind, as clearly illustrated above, the suture band/sewing ring 40 of Alonso uniformly contacts the rim/metal ring 28 between the flanges. As such, even though the rim/metal ring 28 may define the central radial projection, the assembly as a whole does not provide any radial spacing between the rim/metal ring 28 and the suture band/sewing ring 40. In contrast, claim 1 requires that relative to a circumferential interface between the rim and suture band, a radial spacing between the rim and the suture band decreases from a first radial spacing to a second radial spacing. With Alonso, on the other hand, no radial spacing exists between the rim/metal ring 28 and the suture band/sewing ring 40; instead, the suture band/sewing ring 40 completely and uniformly contacts the rim/metal ring 28 between the flanges.

In addition to the above, claim 1 recites that the second radial spacing is circumferentially adjacent the first radial spacing. In contrast, the identified radial “spacings” of Alonso are longitudinally adjacent one another, not circumferentially adjacent.

Finally, claim 1 recites that the suture locking assembly is “configured to securely maintain a suture segment that is circumferentially pulled relative to at least one of the flanges from a first position to a second position”. The Final Office Action fails to address this feature. In fact, nothing in Alonso discloses the metal ring 28/sewing ring 40 as being configured to securely maintain a circumferentially-pulled suture segment.

For at least the above reasons, it is respectfully submitted that claim 1 is not anticipated by Alonso. Withdrawal of the rejection is respectfully requested.

Claims 2-31 and 54-58 depend from claim 1 and thus, for at least the above reasons, are also allowable over Alonso. Additional distinctions exist.

For example, claim 20 recites a “plastic cover” and that the suture band is maintained between the rim and the plastic cover. The Final Office Action fails to identify any corresponding teachings in Alonso, and none exist. Nothing in Alonso teaches a “plastic cover”. Complete examination of claim 20 is requested.

Claim 21 recites that the suture band is formed of a metallic material. The Final Office Action fails to identify any corresponding teachings in Alonso, and none exist. Pointedly, the

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suture band/sewing ring 40 of Alonso is a fabric material. Complete examination of claim 21 is requested.

Claim 54 recites that a perimeter shape of the first flange differs from a perimeter shape of the second flange. The Final Office Action fails to identify any corresponding teachings in Alonso, and none exist. The identified “flanges” of the rim/metal ring 28 of Alonso are identical. Complete examination of claim 54 is requested.

Claim 55 recites that the first flange forms a first pattern of radial indentations, and the second flange forms a different, second pattern of radial indentations. The Final Office Action fails to identify any corresponding teachings in Alonso, and none exist. The flanges of the rim/metal ring 28 of Alonso do not have radial indentations, let alone differing patterns of radial indentations. Complete examination of claim 55 is requested.

Claim 56 recites that the first flange forms a plurality of recesses and a plurality of grooves, with a radial depth of the recesses being greater than a radial depth of the grooves. The Final Office Action fails to identify any corresponding teaching in Alonso, and none exist. Neither of the flanges of the rim/metal ring 28 of Alonso have recesses or grooves, let alone recesses/grooves of differing radial depth. Complete examination of claim 56 is requested.

Claim 57 recites that the rim forms a plurality of recesses, with each of the recesses being non-symmetrical. The Final Office Action fails to identify any corresponding teaching in Alonso, and none exist. Neither of the flanges of the rim/metal ring 28 of Alonso have recesses, let alone non-symmetrical recesses. Complete examination of claim 57 is requested.

Claim 58 recites that each recess is defined by a leading surface and a trailing surface extending from a lateral edge, and further that an angle of extension of the leading surface differs from an angle of extension of the trailing surface. The Final Office Action fails to identify any corresponding teaching in Alonso, and none exist. Neither of the flanges of the rim/metal ring 28 of Alonso have recesses, let alone recesses defined by surfaces having differing angels of extension. Complete examination of claim 58 is requested.

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Restriction Requirement

In response to the Restriction Requirement mailed June 11, 2008, Applicant elected the Examiner-identified invention of Group I (claims 1-31 and 54-58) with traverse. *Election filed July 11, 2008.* The Office Action mailed October 15, 2008 did not address Applicant's traverse of the Restriction Requirement. The current Final Office Action also fails to address Applicant's traverse of the Restriction Requirement, and provides no indication as to the current status of the claims of unelected Group II (claims 51-53). Applicant renews the request for review of Applicant's traversal to the Restriction Requirement. For sake of completeness, claims 51-53 has been indicated as "withdrawn" with this Response; however, Applicant reserves the right to designate claims 51-53 as "currently pending" subject to review of the restriction requirement traversal.

CONCLUSION

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In view of the above, Applicant respectfully submits that pending claims 1-31 and 51-58 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-31 and 51-58 are respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

Any inquiry regarding this Response should be directed to Timothy A. Czaja at Telephone No. (612) 573-2004, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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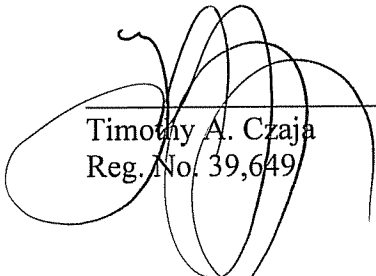
Respectfully submitted,

Mark Shu et al.,

By their attorneys,

Date: October 5, 2009

TAC:jms



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